



Evaluating and Treating Nightmares

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[Dr. McCall's NCBI Bibliography](#)



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Dr. Ami Student is a health psychologist with specializations in behavioral sleep medicine, chronic pain management, primary care-mental health integration, medical illness stigma, and Acceptance and Commitment Therapy. He has spent the last 6 years providing services to rural Veterans exclusively through telehealth, first as a primary care psychologist, then as a sleep psychologist, and now as a BHIP psychologist with the VISN 20 Clinical Resource Hub. Dr. Student also works as a consultant for the VA's Cognitive Behavioral Therapy for Insomnia training program and is a faculty member with the VA SCAN-ECHO Sleep program.

Objectives

- Discuss the prevalence and pathophysiology of nightmares
- Learn how to evaluate nightmares
- Explore best practices for nightmare treatment

Clinical Case

You are seeing Ms. Jones for mental health intake. Ms. Jones is a 53-year-old woman with history of PTSD related to her service as a combat medic in Iraq. She presents with a primary concern of terrible nightmares, as well as ongoing difficulties with ongoing low mood, hypervigilance, nightmares, and flashbacks.

She reports her sleep problems began during deployment as a combat medic. She saw traumatic injuries and deaths frequently. She has distressing nightmares about 2-3 times a week that include experiences that are very similar in content to traumatic experiences. She also sometimes awakens with her heart racing, in a cold sweat, without memory of a dream. Her partner has reported she sometimes shouts in her sleep and appears to be running or kicking.

Ms. Jones tells you that sometimes she is afraid to go to sleep because of these experiences. As a result, she often gets no more than 5-6 hours/night of sleep and is very tired during the day.



What are nightmares?

What are nightmares?

- Recurring experiences of distressing dreams
 - Content usually includes threats to survival, security, physical wellbeing or extreme embarrassment
- Upon waking
 - Memory of dream content
 - Rapidly become alert and oriented
 - Affective, cognitive, and somatic distress frequently continues into waking
- Nightmare Disorder
 - Accompanying distress and functional impairment



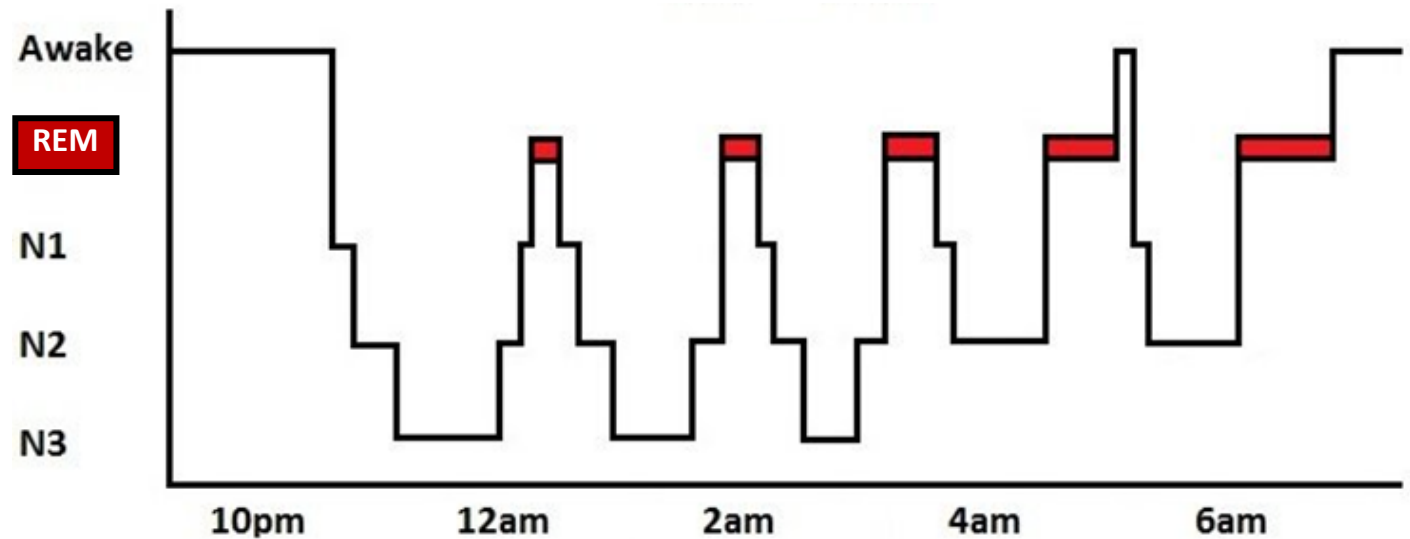
Nightmare prevalence and associations

- Distressing dreams (trauma-related, separation-related) reported in about 9.1% of adult population¹
- Nightmares occur at least weekly in ~2% of the adult population²
- Nightmare Disorder criteria met³ :
 - 67% of individuals with Posttraumatic Stress Disorder
 - 37% of individuals with Major Depressive Disorder
 - 31% of individuals with Personality Disorders
- Nightmares associated with suicidal ideation, suicide risk, suicide attempts (frequency more predictive)⁴
- 54% of Iraq/Afghanistan Veterans with MH diagnoses and 10% of veterans without MH diagnoses endorsed memories or nightmares of traumatic events at least 1x per week⁵
- 61% of I/A Veterans reported being at least moderately bothered by nightmares in past month⁶
- 32% of US National Guard members reported nightmares, and 12% reported insomnia and nightmares at least every few weeks. Nightmares associated with poorer physical and mental health.⁷

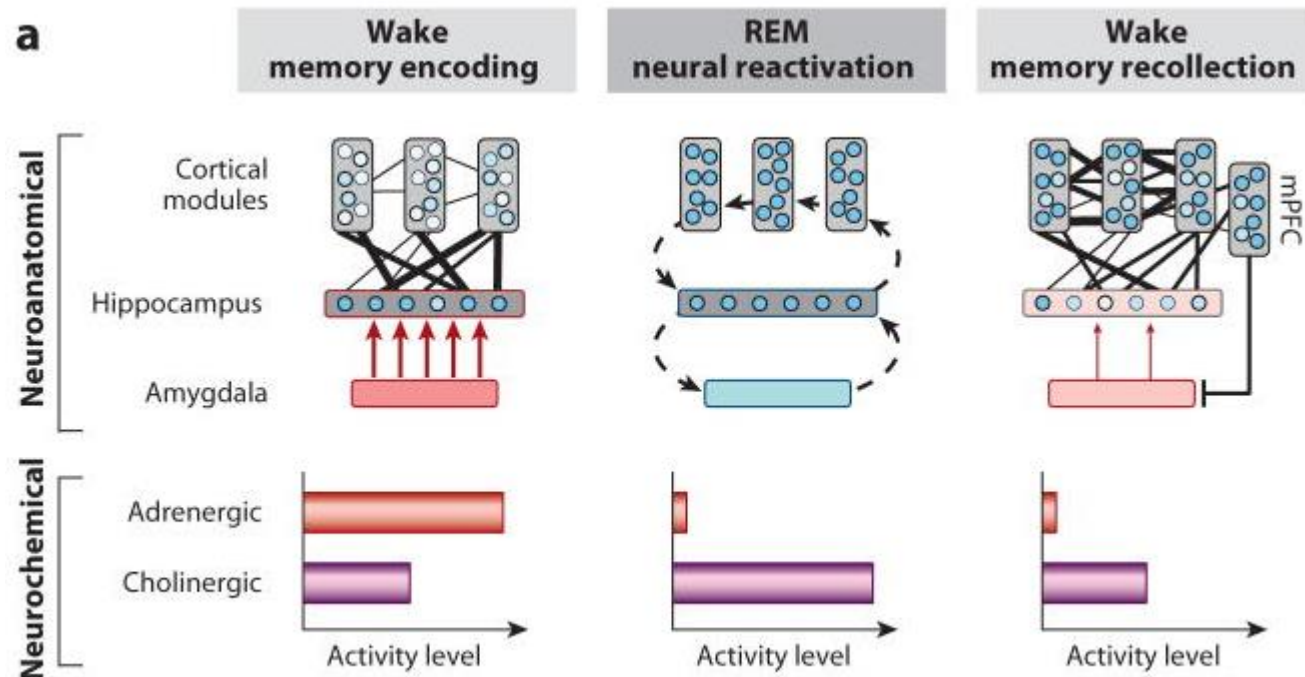
¹ Worley al., 2021; ² Schredl, 2013; ³ van Schagenet al., 2017; ⁴ Drapeau & Nardoff, 2017; ⁵ Ulmer et al., 2015; ⁶ Pigeon et al., 2013; ⁷ Pruiksma et al., 2021

Theories of nightmare pathology

- Sleep occurs in ~90-minute cycles of non-rapid eye movement (NREM) and rapid eye movement (REM) sleep throughout the night
- REM sleep occurs mostly near the end of the night and is characterized by:
 - Active dreaming
 - Recall of dreams
 - Muscle paralysis
- REM sleep is believed to be involved in emotional memory processing and specifically fear memory

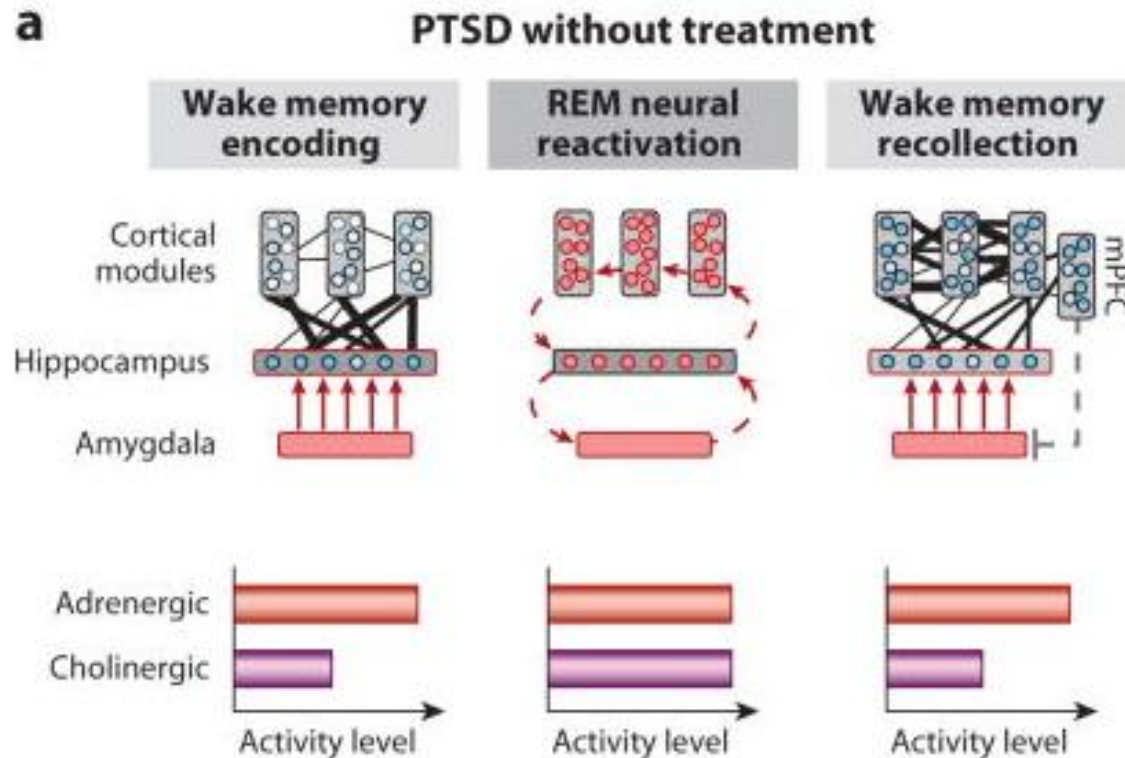


REM sleep and emotional memory processing



- Normally, adrenergic and cholinergic activity are high during wake
- Cholinergic but NOT adrenergic activity is high during REM
- This promotes memory consolidation without high sympathetic nervous system input
- REM sleep may thus play a role in strengthening important memories, while “forgetting” the strong emotions associated with them

When REM “goes rogue”



- Elevated noradrenaline activity during REM sleep may prevent this normal attenuation of the emotion
- Daytime plus nighttime “reliving” of the intense emotional experience may then perpetuate this “stuck pathway”

Evaluating nightmares

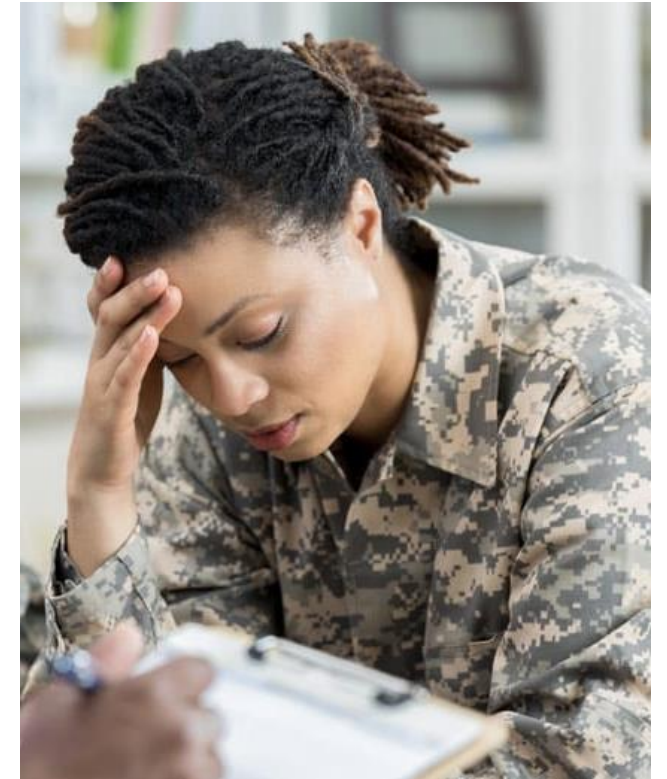
Importance of evaluating and treating nightmares

- The majority of nightmare sufferers do not seek professional help^{1,2,3}
 - Less than 1/3 believed their nightmares were treatable
 - Only 38% reported them to a healthcare provider
- Less than one-third to one-fifth of nightmare sufferers who sought professional help reported having received helpful recommendations^{1,3,4}
- Without treatment, nightmare disorder may persist for decades⁵

¹ Nadorff et al, 2015; ² Shredl, 2013; ³ Thünker et al, 2014; ⁴ Schredl & Göritz, 2014; ⁵ Schreuder, Kleijn, & Rooijmans, 2000

Treating psychiatric disorders does not always resolve nightmares

- Clinical providers often consider nightmares to be a symptom of another disorder such as PTSD^{1,2}
- Unfortunately, sleep-related symptoms such as nightmares may continue as residual symptoms in 15-35% of individuals with PTSD who responded to evidence-based psychotherapies for PTSD³
- Sleep fragmentation associated with unresolved nightmares is likely to interfere with recovery from PTSD^{4,5,6}



1 Thünker et al, 2014; 2 Nadorff et al, 2015; 3 Larsen et al, 2018; 4 Babson & Feldner, 2010; 5 Germain et al., 2008; 6 Harvey, Jones, & Schmidt, 2003

Evaluating nightmares

- Ask about the quality of nightmares
 - Does the patient remember the dream?
 - Does the dream involve threats to survival, security, or physical integrity?
 - Does the patient rapidly become alert after awakening from the dream?
- How often are they happening?
- Are there other sleep-related symptoms?
 - Dream enactment behaviors
 - Snoring
 - Insomnia (not just fear of sleep)

What is a nightmare...not?

- Similar, but not the same:
 - Night terrors
 - Nocturnal panic attacks
 - Nocturnal flashbacks
 - Sleep paralysis
 - Hypnagogic or hypnopompic hallucinations
 - Dream enactment behaviors
 - Obstructive sleep apnea



The Nightmare, by Henry Fuseli (1781)
(But is this a nightmare?)

Nightmares?

- “Shortly after sleep onset, the patient had a dream that something dark approached her. The patient woke up several times and felt unable to move her arms and legs and unable to speak.”
- A woman of sixty-eight lay down to sleep “and had a feeling as if shocked, then felt paralyzed and heard vivid sounds of people coming up the stairs, with a sense of violent intent.”
- A middle-aged man had a “feeling of shadow falling over his body, hunted by enemies, hearing extremely loud screams.”

- Merck patient data from suvorexant trials

These accounts describe sleep paralysis and sleep-related hallucinations resulting from a medication

Dream enactment in PTSD

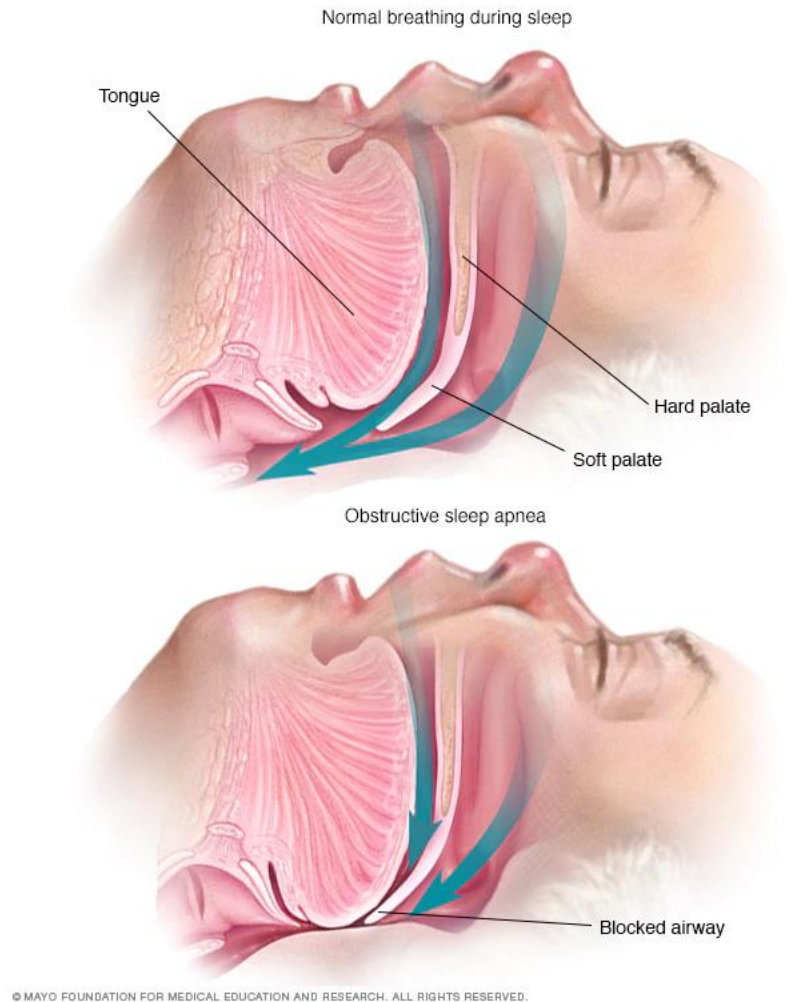
- Trauma exposure (*with or without PTSD*) has been associated with abnormal motor activity during sleep, including:
 - Kicking, punching, yelling during dreams
 - Sleepwalking
 - REM without atonia (RWA) – a failure of normal REM paralysis
- A novel parasomnia was proposed by Mysliwiec et al: trauma-associated sleep disorder
- Differential diagnosis: REM behavior disorder, untreated OSA and use of serotonergic medications like antidepressants



Mysliwiec, 2014; Mysliwiec, 2018; image: xpertdox.com

OSA and nightmares

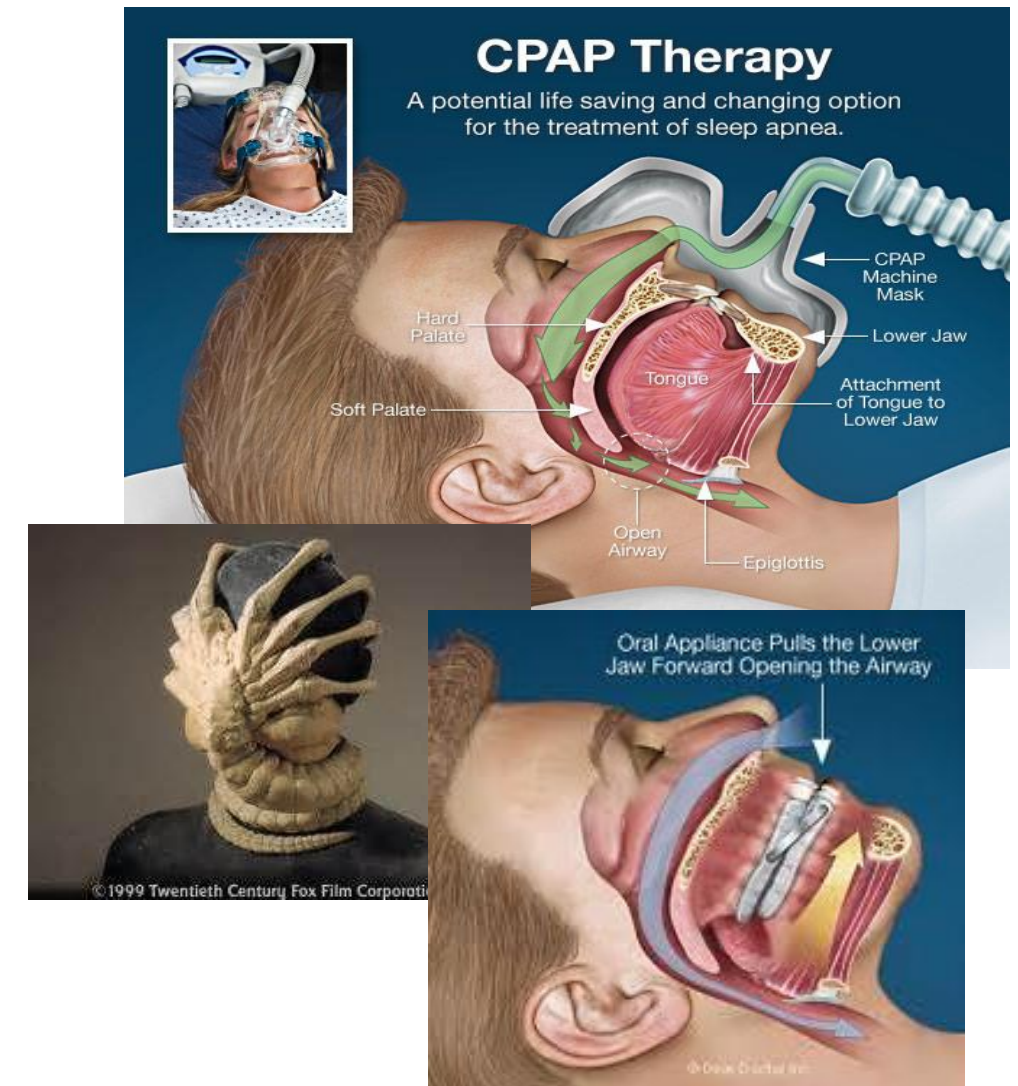
- The prevalence of obstructive sleep apnea (OSA) in patients with PTSD is as high as 76% ($AHI \geq 5$)
- OSA is often worse in REM sleep because accessory respiratory muscles are paralyzed
- More obstructive events during REM sleep means more awakenings from nightmares (and with racing heart/shortness of breath from OSA)



Zhang et al, 2017

Benefits and challenges of OSA treatment

- Treating OSA can improve daytime symptoms of PTSD and nightmares
- In one study, every 10% increase in CPAP compliance almost doubled the odds of improving nightmares
- However, patients with OSA+PTSD have lower adherence to CPAP
- Helpful tips:
 - Try a nasal/nasal pillow interface
 - Treat nasal congestion
 - Refer to PAP desensitization
 - Consider alternative OSA therapies



Insomnia and nightmares

- Many patients with nightmares also have insomnia: difficulty getting to sleep, staying asleep, or waking up too early
- Associated with some kind of impairment (mood, attention, distress)
- This problem is considered chronic if it has been going on for at least 3 months, and occurs at least 3 times/week
- Caveats:
 - Must rule out other sleep disorders that could contribute
 - Should be distinguished from the fear of sleep – can't sleep versus won't sleep
- Consider referral to cognitive-behavioral therapy for insomnia (CBT-I)

Checking in with your patient...

Sensing that your patient's sleep problems need more evaluation, you ask her about other sleep problems, like snoring, witnessed apneas, and the dream enactment behaviors her partner has reported.

She tells you that her partner does also notice snoring, though has not mentioned breathing pauses during sleep. And now that you mention it, she does sometimes wake up feeling like she is choking. She had thought this was related to the nightmares.

The dream enactment behaviors have been going on since her military service. They seem to happen more towards the end of the night. When her partner wakes her up, she recalls vivid dream content.

Treating nightmares

Psychotherapeutic treatment of nightmares: Imagery Rehearsal Therapy (IRT)


- Based on idea that experiences we have during the day can show up in our dreams the next night.
 1. Psychoeducation about nightmares
 2. Identify recurring nightmare (most common, most distressing, least distressing)
 3. Exposure (depends on protocol)
 4. Develop new script for dream with more pleasant, safe, calming, humorous, empowering imagery
 5. Rehearse new script (before bed, 2+ times per day)

Imagery Rehearsal Therapy: Rescripting

- Same beginning, more pleasant (or value-consistent) alternate middle and end
- Inserting reminders of safety, survival, control, coping
- Transforming negative events, stimuli, objects, people into harmless, pleasant, humorous ones
- Distancing techniques that remind one “this is just a dream”



Challenges of IRT

- Non-recurring dream content
 - Non-narrative dream content
 - Avoidance of dream content/trauma memories
 - Patient selection questions
- 

Effectiveness of IRT

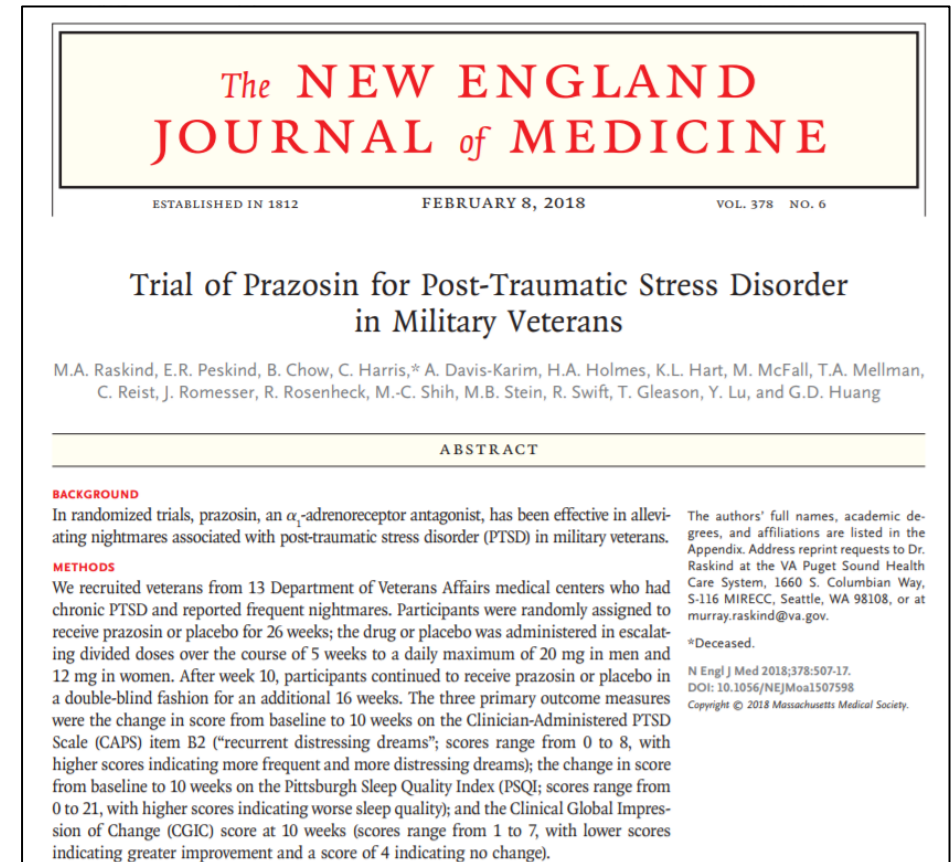
- “Recommended” in position paper by AASM for PTSD-associated nightmares and nightmare disorder (Morgenthaler et al., 2018)
- Most studies have shown some (sometimes substantial) efficacy
- Strength of studies have been limited
 - Small samples
 - Methodological limitations
 - Unclear or variable protocols
- Veteran studies (Vietnam and OEF/OIF/OND) have demonstrated more limited outcomes, although clear benefit to ***some*** individuals
 - Who does it work best for?
 - Questions about Sleep-Disordered Breathing? (Youngren, Balderas, & Farrell-Higgins, 2021)

Other treatment components/options

- Treating important comorbidities
 - Apnea: PAP Adherence
 - Insomnia: CBT-Insomnia (Harb et al., 2019)
 - PTSD: Trauma-focused therapies (CPT, PE, EMDR); Trauma-informed therapies (ACT, CBT, STAIR)
 - Alcohol and Cannabis: Substance Use Disorder treatment
 - Safety precautions related to dream enactment behaviors
- Recovering from a nightmare
 - Grounding
 - Stimulus Control
 - Relaxation Training
 - Cognitive Therapy (Coping Statements, Cognitive Restructuring)
 - Defusion (Acceptance and Commitment Therapy)

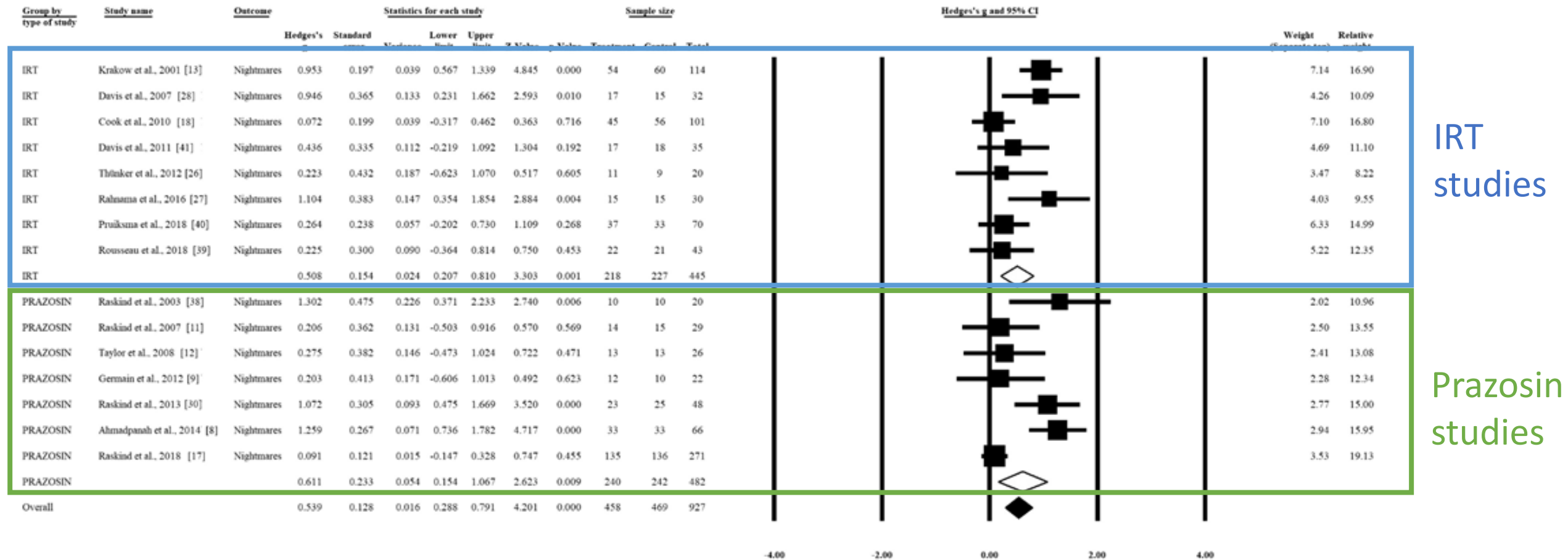
Prazosin

- Alpha-1 adrenergic antagonist that was originally used for lowering blood pressure
- Early randomized trials showed benefits for nightmares, sleep quality, and total PTSD symptoms
- A large multi-site study by Raskind and colleagues showed no overall benefit of prazosin in patients with chronic, stable PTSD
- Additional research is ongoing (Hendrickson's PREDICT trial) to determine who benefits

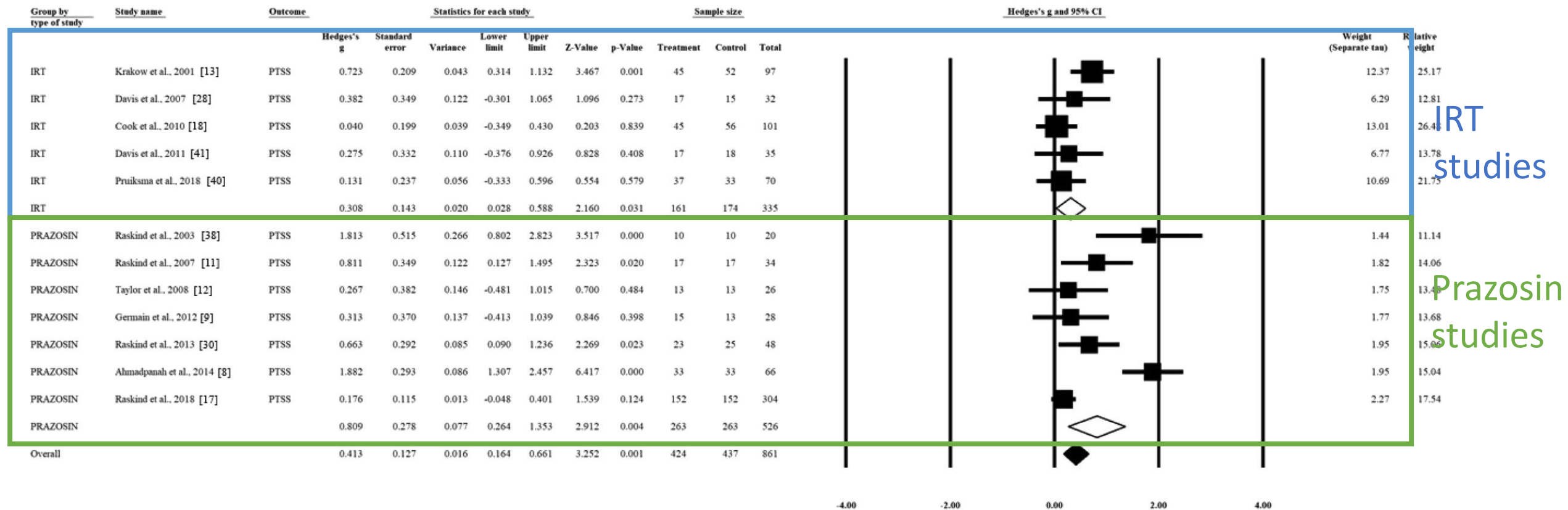


Raskind, 2016; Raskind, 2018; Goldstein & Walker 2014

Meta-analysis: IRT versus prazosin for nightmares



Meta-analysis: IRT versus prazosin for PTSD symptoms



How to select a treatment?

- There is little guidance / treatment algorithm for treating nightmares
- Likely an individual patient decision
 - Does the patient want to avoid taking more medications (knowing if the medication works, it may be needed for life), or conversely prefer a medication?
 - Are nightmare therapies available for referral?
 - Is the patient able to overcome their avoidance to engage in a therapy?

Checking in with your patient...

- At your intake appointment, you decide to refer your patient to sleep medicine to evaluate her for OSA and trauma-associated sleep disorder.
- She undergoes a laboratory sleep study and is found to have severe OSA. No unusual movements or behaviors are seen in the PSG. Sleep medicine offers her a trial of PAP therapy, which she tries to use for several weeks, but she still cannot sleep, and her nightmares are worse.
- You refer her for nightmare therapy, and she starts to see benefit from rescription within weeks. She is able to start using her CPAP. Because she still suffers from insomnia, you refer her to CBT-I, which she finds helpful. She is now able to sleep 6 continuous hours per night – better than she has slept in decades.

Pearls for Practice



- Nightmares are very frequent in the Veteran population, and can be very distressing
- Traumatic stress and sleep are strongly related: *Good sleep treatment is good traumatic stress treatment.*
- Consider psychotherapeutic, medication, *and* device-based treatments for nightmares. It may take an interdisciplinary team to adequately address Veterans' concerns.

Handout #1

FOR PROVIDERS

Talking to patients about nightmares



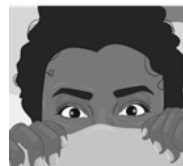
Nightmares

Psychoeducation

1. **Ask Veteran** about their understanding and beliefs as to why they are having nightmares. The aim is to *build* on their understanding.
2. **Provide generic example of a threat** (grizzly bear, fire in the home) and **discuss natural reactions to this threat** (fight, flight, freeze). Highlight fight or flight's importance in keeping us safe and alive when there's a threat present.
3. **Explore fight or flight's relationship to sleeping when there's a threat present.**
 - When there is an ongoing threat it is safer for us not to sleep too soundly, or not to sleep at all.
 - When there is an ongoing threat it is important for your brain to rehearse, remember, and maintain a sense of danger—even while asleep.
4. Sometimes when we experience trauma our fight or flight “dimmer switch” doesn't ever fully return to “0,” so we continue to react as though the threat is still present—even when it's not. **Treating nightmares helps our mind and body realize the threat is no longer present**, so it can turn the fight or flight “switch” back down at night.
5. **Ask whether this explanation fits the Veteran's personal experience?** If so, how? If not, in what ways is it different?

Handout #2 FOR PATIENTS

What Veterans can do when they have a nightmare



Nightmares

What to do when you wake up

You may wake up in a state of panic when you wake from a nightmare, as the fight or flight you were experiencing in the dream is still in overdrive. Here are some strategies for reducing arousal and helping you return to sleep.

1. **Ground yourself:** Grounding is like a ship dropping anchor amidst a storm. It doesn't stop the storm, but helps the ship steady itself to weather the storm. When you have a nightmare, grounding means that you are able to help your body and mind remember they are in the present, in a safe place, and no longer in the dream—able to weather the nightmare storm until it passes.

Grounding Exercise: "The Five Senses"

1. **Observe 2-3 things with your eyes.** Describe each object *in detail* to yourself. What are each objects' shapes, colors, & sizes?
 2. **Observe 2-3 things with your ears.** Describe each sound *in detail* to yourself. What are the sound qualities, pitches, volumes, & rhythms?
 3. **Observe 2-3 things you can touch.** Describe each sensation *in detail* to yourself. What are the sensations' textures, temperatures, & pressures?
 4. **Observe 1 thing you can smell.** Describe it *in detail* to yourself. Is it sweet, sour, strong, or weak?
 5. **Observe 1 thing you can taste.** Describe it *in detail* to yourself. Is it sweet, sour, savory, or bitter?
 6. **Take in the WHOLE space in with ALL of your senses.** Be very aware and observant of what it's like to be in your body in this safe, known space.
2. **Coping Statements:** Develop a few clear statements you can use to help your mind remember where it is, that you are no longer dreaming, and are now safe and secure.

Write out a statement ahead of time on a card, such as "I am _____, and I am at home in my bedroom in _____. I am in the year _____, and know I am safe and sound because of _____." Read this statement to yourself repeatedly after grounding yourself.
 3. **Stimulus Control:** Leave the bed if you aren't sleepy (eyes closing, yawning, head nodding, about to fall asleep) and do something out of bed that is relaxing. Make sure it's *not* just distracting (video games, cleaning, watching TV), but is something that truly calms your body and mind. Once you feel very sleepy again, then get back into bed (leave again if you don't fall asleep quickly though).

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Questions?

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